Bright Path Sped

4 GAMES



72 CARDS



BREAK APART MULTIPLICATION GAMES

Memory Match, Bingo, Roll and Break, Grades 3-4

Terms of Use

Please read before you print your first page.

One classroom license

- This file is for one classroom: one teacher, one group of students.
- Please do not share it, post it online, or sell it.
- Extra licenses for a team or a school are available on the product page.

This is a fillable PDF

- Open it in a PDF reader (Adobe Acrobat Reader, Preview, or your browser), click into a box, type, and Save As.
- The name lines and the number boxes on the student pages are type-in fields. You can also print any page and write by hand. The grids are colored by hand on a printed page.
- It works offline. No account, no subscription, no internet connection needed after you download it.

Print at 100 percent

Turn off fit to page and shrink to fit so the cards stay 2.5 inches square. The low-ink copy of the cards (pages 25 to 29) uses a gray part and a white part with dark outlines, so it prints light on a black and white printer.

How the pieces fit

- Cut cards, pages 7 to 12: 72 cards in all, cut and laminated before the lesson.
- Student pages 13 to 24: 12 sheets, including 6 bingo boards.
- Low-ink copies of 60 cards: pages 25 to 29. Keys: pages 30 to 33. How to play: pages 5 and 6.

Need help?

If a box will not behave or a page will not print the way you expect, use Ask a Question on the product page first. Every question is read, and a fix ships as a free update from My Purchases.

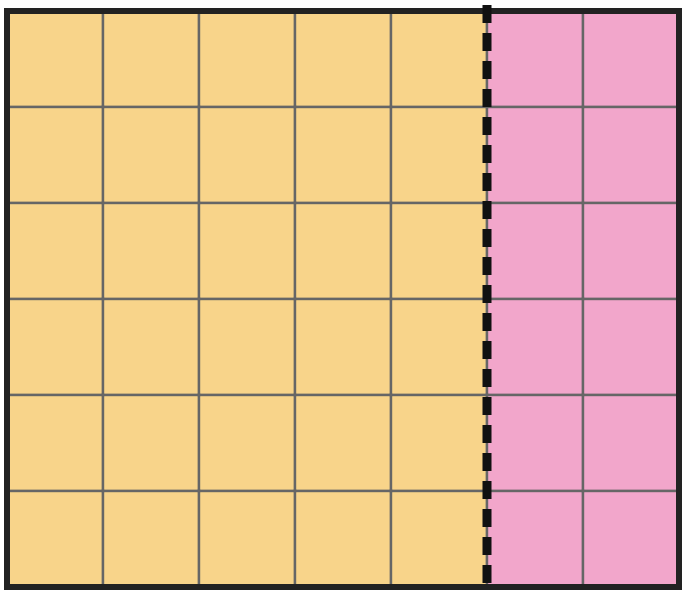
© Bright Path Sped. For single-classroom use by the original purchaser.

PREVIEW

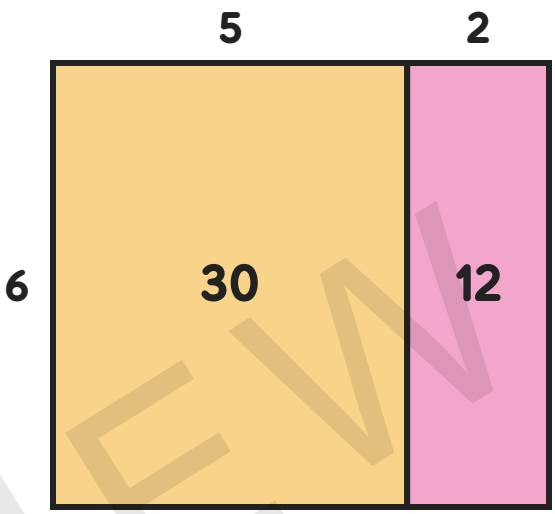
What a Break Apart Looks Like

Show this page before the first game. Breaking apart means splitting one factor into two friendly parts, multiplying each part, and adding the two partial products.

the array



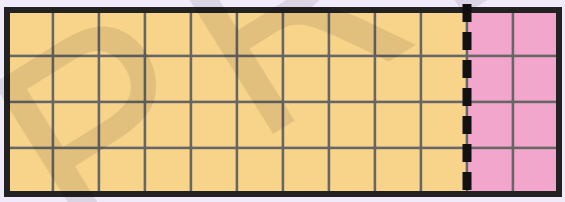
the area model



Model it: 6 x 7 = (6 x 5) + (6 x 2)

- Read 6 x 7 as 6 rows of 7. The dashed line breaks the 7 into 5 and 2.
- Left part: 6 x 5 = 30. Right part: 6 x 2 = 12.
- Add the two partial products: 30 + 12 = 42. So 6 x 7 = 42.

A break at 10



4 x 12 = (4 x 10) + (4 x 2) = 40 + 8 = 48

Where to break

Big number	Break it	Say
6	5 + 1	break at 5
7	5 + 2	break at 5
8	5 + 3	break at 5
9	5 + 4	break at 5
11	10 + 1	break at 10
12	10 + 2	break at 10

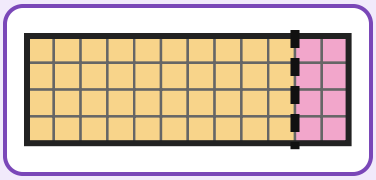
Why a friendly break

- Facts with 5 and 10 are the ones most children already know, so the two parts are easy.
- Both parts add back to the whole: 5 + 2 is 7, and 6 x 5 plus 6 x 2 is 6 x 7.
- Rows go across, columns go down. We always break the big number, the columns.

PREVIEW

How to Play: Bingo, Race to 100

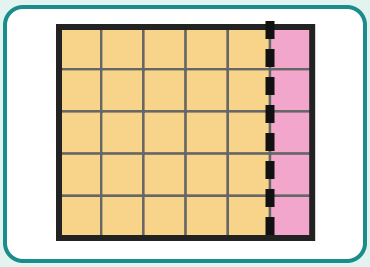
The other two games. Bingo works for a group; the race is a fast two-player game.



Partial Product Bingo

3 to 6 players, or a whole class. Pages 16 to 21, 10, 11.

1. Give each player a board (pages 16 to 21) and 8 counters. Shuffle the 24 calling cards (pages 10 and 11).
2. The caller shows a card, like 4 x 12 with its break line. Everyone breaks it apart, finds the two partial products and adds.
3. Cover the total on your board. The center is free. Three in a row wins. The key on page 32 lists every card.



Race to 100

2 players, the number cards, 2 counters. Pages 22, 23, 12.

1. Put both counters at 0 on the chart (page 22). Take turns drawing a rows card and a big number card, or roll the cube.
2. Break the big number apart and add the two partial products. Write it on the score sheet (page 23), add it to your total and move your counter.
3. The first player to reach 100 or more wins. Every turn adds at least 12, so a game never goes past 9 turns each.

A caller's helper

- Say the problem: four times twelve. Break the twelve at ten.
- Give a few seconds. Then show the card so everyone can check the line.
- Read the total from the key only when someone calls bingo.

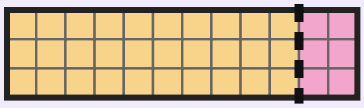
Check a win

- Every total on a board is also a calling card total.
- Each of the 24 totals sits on exactly two of the 6 boards.
- A player who covered a total that was never called has not won yet.

PREVIEW

3 x 9 = (3 x 5) + (3 x 4) E1	**2 x 7** = (2 x 5) + (2 x 2) E2	**4 x 12** = (4 x 10) + (4 x 2) E3
2 x 8 = (2 x 5) + (2 x 3) E4	**2 x 6** = (2 x 5) + (2 x 1) E5	**5 x 9** = (5 x 5) + (5 x 4) E6
3 x 7 = (3 x 5) + (3 x 2) E7	**3 x 11** = (3 x 10) + (3 x 1) E8	**3 x 6** = (3 x 5) + (3 x 1) E9
4 x 8 = (4 x 5) + (4 x 3) E10	**4 x 7** = (4 x 5) + (4 x 2) E11	**6 x 7** = (6 x 5) + (6 x 2) E12

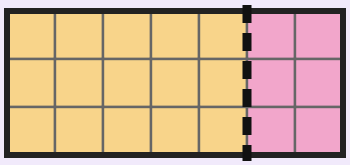
PREVIEW



3 x 12

= (3 x 10) + (3 x 2)

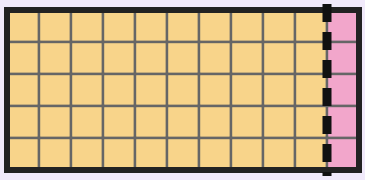
C1



3 x 7

= (3 x 5) + (3 x 2)

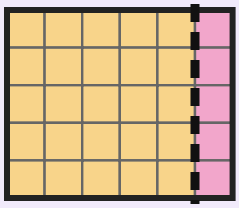
C2



5 x 11

= (5 x 10) + (5 x 1)

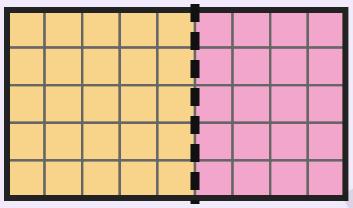
C3



5 x 6

= (5 x 5) + (5 x 1)

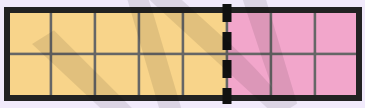
C4



5 x 9

= (5 x 5) + (5 x 4)

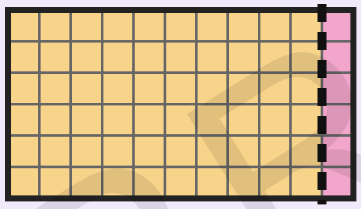
C5



2 x 8

= (2 x 5) + (2 x 3)

C6



6 x 11

= (6 x 10) + (6 x 1)

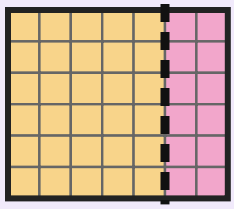
C7



2 x 12

= (2 x 10) + (2 x 2)

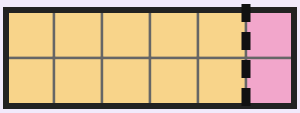
C8



6 x 7

= (6 x 5) + (6 x 2)

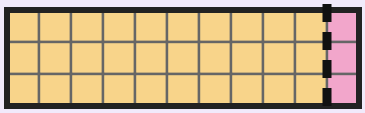
C9



2 x 6

= (2 x 5) + (2 x 1)

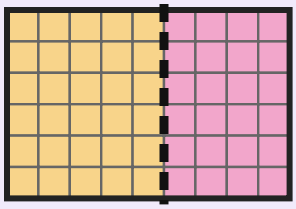
C10



3 x 11

= (3 x 10) + (3 x 1)

C11



6 x 9

= (6 x 5) + (6 x 4)

C12

PREVIEW

1 roll again R1	2 rows R2	3 rows R3
4 rows R4	5 rows R5	6 rows R6
6 big number break at 5 B1	7 big number break at 5 B2	8 big number break at 5 B3
9 big number break at 5 B4	11 big number break at 10 B5	12 big number break at 10 B6

PREVIEW

Preview - Bright Path Shed

My name _____ Date _____

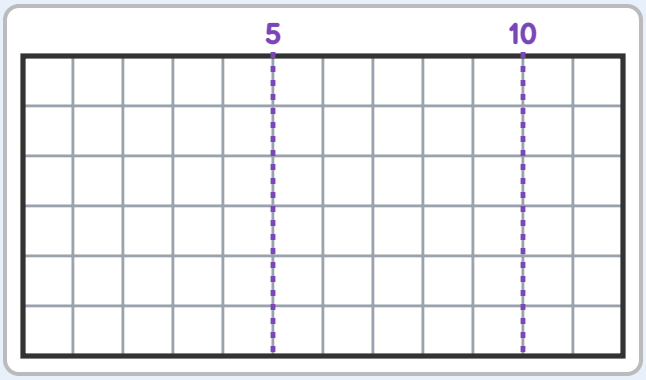
Roll and Break: Game Board



Roll. Color the array. Break it apart.

1

I rolled ☐ x ☐



break the big number

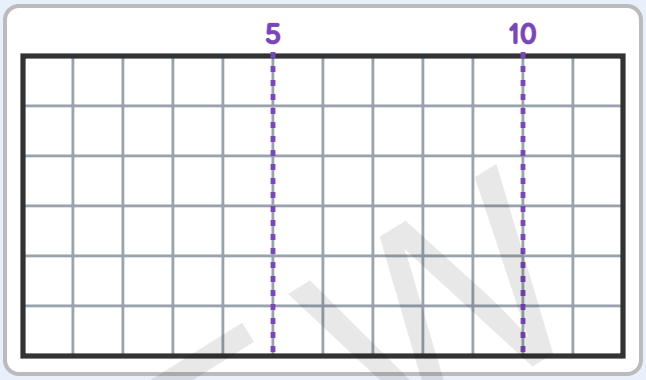
☐ x ☐ + ☐ x ☐

add the parts

☐ + ☐ = ☐

2

I rolled ☐ x ☐



break the big number

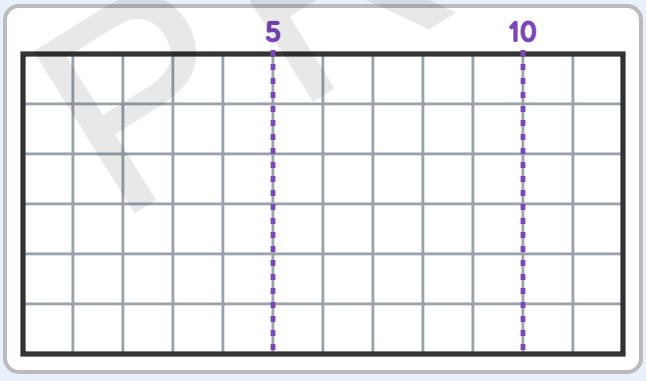
☐ x ☐ + ☐ x ☐

add the parts

☐ + ☐ = ☐

3

I rolled ☐ x ☐



break the big number

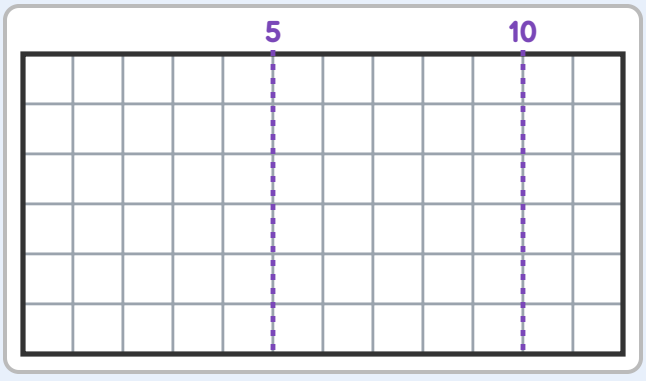
☐ x ☐ + ☐ x ☐

add the parts

☐ + ☐ = ☐

4

I rolled ☐ x ☐



break the big number

☐ x ☐ + ☐ x ☐

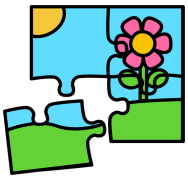
add the parts

☐ + ☐ = ☐

PREVIEW

Preview - Bright Path Sped

My name _____ Date _____

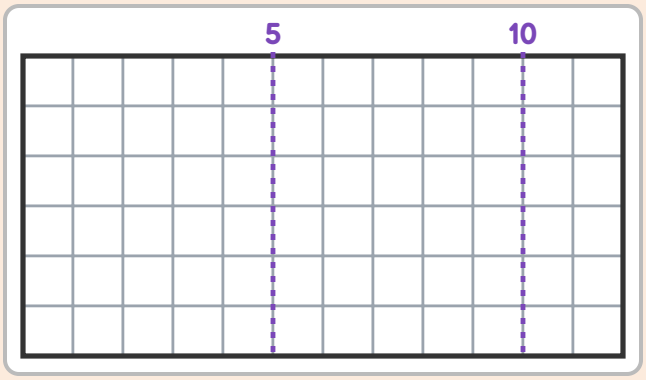


Split It! My Matches

Color a match you found. Write the break apart.

1

I matched ☐ x ☐



break the big number

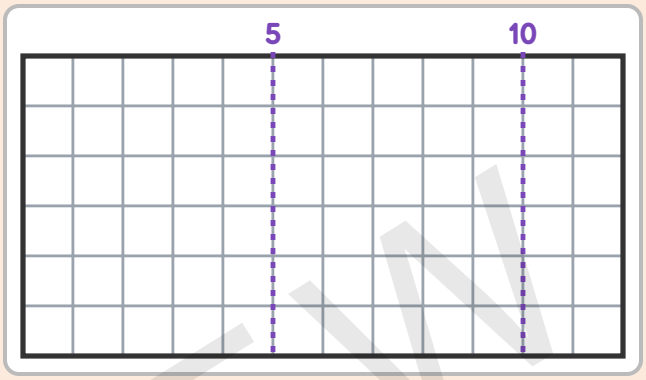
☐ x ☐ + ☐ x ☐

add the parts

☐ + ☐ = ☐

2

I matched ☐ x ☐



break the big number

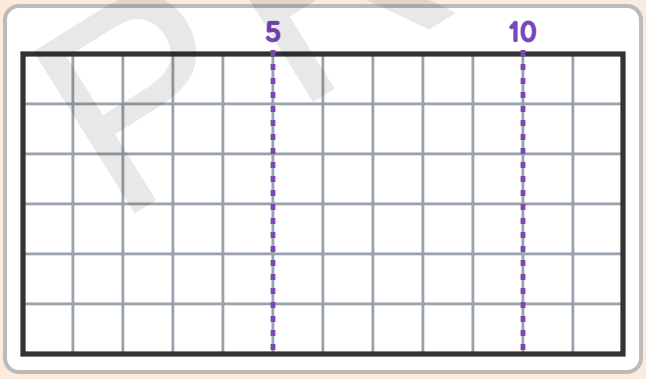
☐ x ☐ + ☐ x ☐

add the parts

☐ + ☐ = ☐

3

I matched ☐ x ☐



break the big number

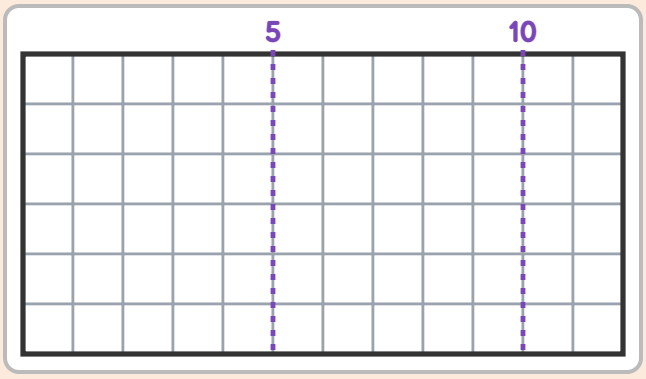
☐ x ☐ + ☐ x ☐

add the parts

☐ + ☐ = ☐

4

I matched ☐ x ☐



break the big number

☐ x ☐ + ☐ x ☐

add the parts

☐ + ☐ = ☐

PREVIEW

My name _____ Date _____

Partial Product Bingo, Board 2



Break it apart. Cover the total.

22	18	28
42	FREE	40
27	30	21

My work space

I heard ☐ x ☐ break ☐ + ☐

☐ + ☐ = ☐ Cover the total.

PREVIEW

Preview - Bright Path Sped

My name _____ Date _____

Partial Product Bingo, Board 4



Break it apart. Cover the total.

33	32	60
66	FREE	44
48	12	54

My work space

I heard ☐ x ☐ break ☐ + ☐

☐ + ☐ = ☐ Cover the total.

PREVIEW

Preview - Bright Path Shed

My name _____ Date _____



Race to 100: Game Board

Roll. Break it apart. Move your counter.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Start at 0

First to 100 wins

PREVIEW

Preview - Bright Path Shed

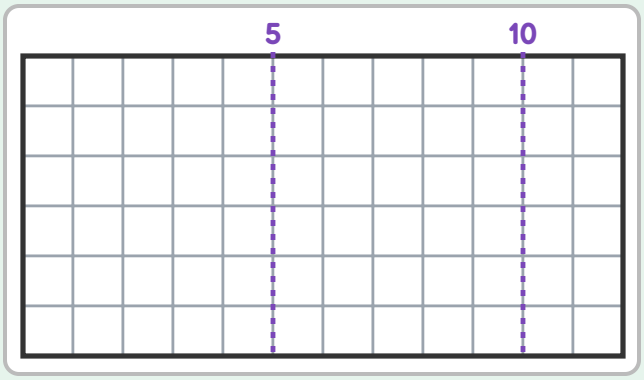
My name _____ Date _____

Make My Own Break Apart

Pick any two numbers. Break one apart. Trade with a partner.

Break apart multiplication: one big fact becomes two small facts.

1



I choose ☐ x ☐

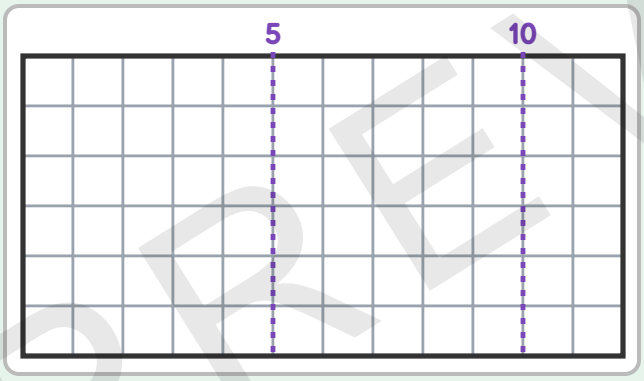
break the big number

☐ + ☐

add the parts

☐ + ☐ = ☐

2



I choose ☐ x ☐

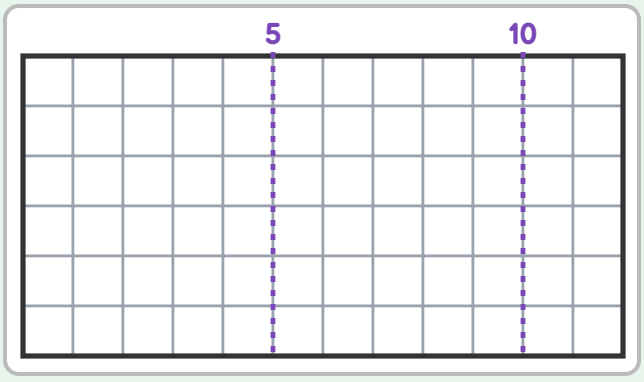
break the big number

☐ + ☐

add the parts

☐ + ☐ = ☐

3



I choose ☐ x ☐

break the big number

☐ + ☐

add the parts

☐ + ☐ = ☐

PREVIEW

3 x 9 = (3 x 5) + (3 x 4) E1	**2 x 7** = (2 x 5) + (2 x 2) E2	**4 x 12** = (4 x 10) + (4 x 2) E3
2 x 8 = (2 x 5) + (2 x 3) E4	**2 x 6** = (2 x 5) + (2 x 1) E5	**5 x 9** = (5 x 5) + (5 x 4) E6
3 x 7 = (3 x 5) + (3 x 2) E7	**3 x 11** = (3 x 10) + (3 x 1) E8	**3 x 6** = (3 x 5) + (3 x 1) E9
4 x 8 = (4 x 5) + (4 x 3) E10	**4 x 7** = (4 x 5) + (4 x 2) E11	**6 x 7** = (6 x 5) + (6 x 2) E12

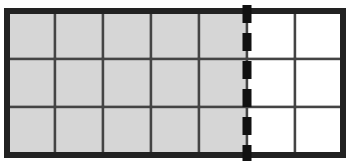
PREVIEW



3 x 12

= (3 x 10) + (3 x 2)

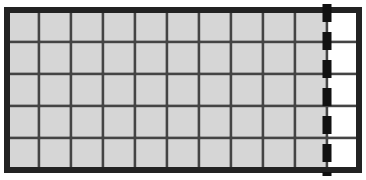
C1



3 x 7

= (3 x 5) + (3 x 2)

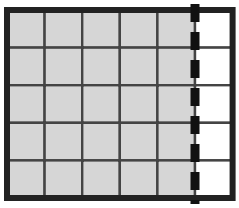
C2



5 x 11

= (5 x 10) + (5 x 1)

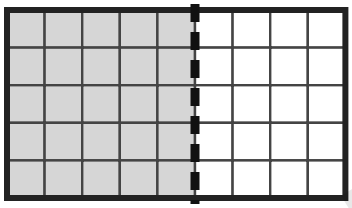
C3



5 x 6

= (5 x 5) + (5 x 1)

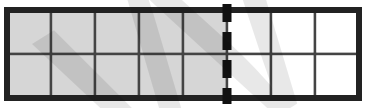
C4



5 x 9

= (5 x 5) + (5 x 4)

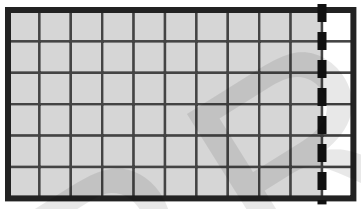
C5



2 x 8

= (2 x 5) + (2 x 3)

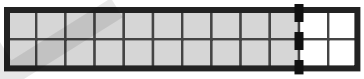
C6



6 x 11

= (6 x 10) + (6 x 1)

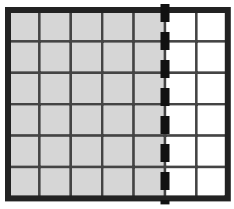
C7



2 x 12

= (2 x 10) + (2 x 2)

C8



6 x 7

= (6 x 5) + (6 x 2)

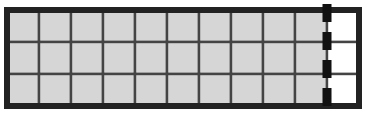
C9



2 x 6

= (2 x 5) + (2 x 1)

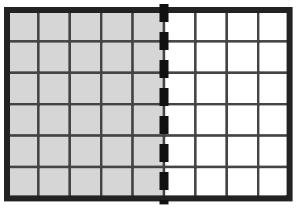
C10



3 x 11

= (3 x 10) + (3 x 1)

C11



6 x 9

= (6 x 5) + (6 x 4)

C12

PREVIEW

Answer Key: Roll and Break, Race to 100

All 30 facts a roll or a draw can make: 5 row numbers (the cube shows 1 to 6, and a 1 means roll again) by 6 big numbers. Each cell shows the two partial products and the total.

Every draw

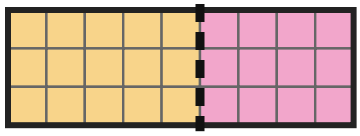
rows \ big	6 5 + 1	7 5 + 2	8 5 + 3	9 5 + 4	11 10 + 1	12 10 + 2
2	10 + 2 = 12	10 + 4 = 14	10 + 6 = 16	10 + 8 = 18	20 + 2 = 22	20 + 4 = 24
3	15 + 3 = 18	15 + 6 = 21	15 + 9 = 24	15 + 12 = 27	30 + 3 = 33	30 + 6 = 36
4	20 + 4 = 24	20 + 8 = 28	20 + 12 = 32	20 + 16 = 36	40 + 4 = 44	40 + 8 = 48
5	25 + 5 = 30	25 + 10 = 35	25 + 15 = 40	25 + 20 = 45	50 + 5 = 55	50 + 10 = 60
6	30 + 6 = 36	30 + 12 = 42	30 + 18 = 48	30 + 24 = 54	60 + 6 = 66	60 + 12 = 72

PREVIEW

Reading the key

- The column heading shows where the big number breaks. 7 breaks at 5 into 5 + 2, so 6 x 7 is (6 x 5) + (6 x 2) = 30 + 12 = 42.
- Accept another friendly break if the parts add back to the same total (7 = 4 + 3 gives 24 + 18 = 42). The total never changes.
- Race to 100: every cell is at least 12, so a player needs at most 9 turns to reach 100.

One fact, drawn



3 x 9 = (3 x 5) + (3 x 4) = 15 + 12 = 27. Check the table: row 3, column 9.

Answer Key: Bingo Calling Cards

All 24 calling cards, in the order they are printed, with the two partial products and the total to cover.

Card	Problem	Parts	Total
C1	3 x 12	30 + 6	36
C2	3 x 7	15 + 6	21
C3	5 x 11	50 + 5	55
C4	5 x 6	25 + 5	30
C5	5 x 9	25 + 20	45
C6	2 x 8	10 + 6	16
C7	6 x 11	60 + 6	66
C8	2 x 12	20 + 4	24
C9	6 x 7	30 + 12	42
C10	2 x 6	10 + 2	12
C11	3 x 11	30 + 3	33
C12	6 x 9	30 + 24	54

Card	Problem	Parts	Total
C13	2 x 9	10 + 8	18
C14	6 x 12	60 + 12	72
C15	4 x 7	20 + 8	28
C16	5 x 8	25 + 15	40
C17	2 x 7	10 + 4	14
C18	5 x 12	50 + 10	60
C19	4 x 8	20 + 12	32
C20	2 x 11	20 + 2	22
C21	4 x 12	40 + 8	48
C22	5 x 7	25 + 10	35
C23	3 x 9	15 + 12	27
C24	4 x 11	40 + 4	44

PREVIEW

Reading the key

- The 24 totals are all different, and they are every total the 30 facts on page 30 can make.
- The first part is the rows times 5 (or times 10), the second part is the rows times what is left over.
- Boards are keyed on page 33. Cards are shuffled, so C numbers do not go in order of total.

Tracker and Roll-Up

Write the date. Color a box for each right answer. A blank row means not played yet, never wrong.

Student _____ Teacher _____ School year _____

Page	Sheet or game	Date	Right	Out of
15	Split It! My Matches		☐☐☐☐	4
13	Roll and Break, Game Board		☐☐☐☐	4
14	Roll and Break, Score Sheet		☐☐☐☐☐☐☐☐	8
24	Make My Own Break Apart		☐☐☐	3
7	Split It! Memory Match (triples found)		☐☐☐☐☐☐☐☐☐☐☐☐	12
16	Bingo (totals covered right, one board)		☐☐☐☐☐☐☐☐	8

Roll-up: count the colored boxes in the Right column for the totals.

Total right, all rows _____ Total out of, rows played _____

Notes for the team

PREVIEW

Break Apart at Home

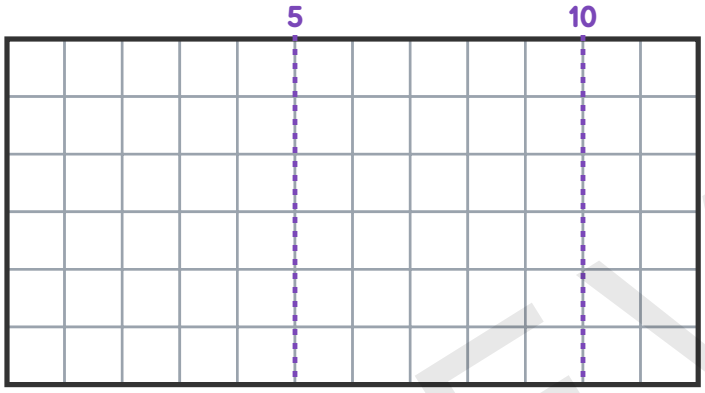
Dear family, this week we are practicing a multiplication strategy: breaking a fact into two easier facts and adding. These questions are for talking and playing, not for a grade. Short answers are fine.

Student _____ Week of _____

Break apart a fact at home, in three steps

- Pick two numbers. Use a number from 2 to 6, and a big number: 6, 7, 8 or 9.
- Color that many rows and columns. Draw a line after the 5 so the big number is split in two.
- Multiply each part, then add. Say it: this part, that part, all together.

Our family break apart



I picked ☐ x ☐

break the big number

☐ + ☐

add the parts

☐ + ☐ = ☐

Try saying

- "Where did you draw the line? Why there?"
- "What are the two smaller facts? What do they add up to?"

Note from the teacher

Note from home

PREVIEW